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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/540,499

04/17/2006

Matti Ravaska

18901

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67844

7590

06/22/2010

ARIZONA CHEMICAL COMPANY, LLC  
ATTN: INTELLECTUAL PROPERTY DEPARTMENT (LEGAL)  
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EXAMINER

CALANDRA, ANTHONY J

ART UNIT

PAPER NUMBER

1791

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/540,499	<b>Applicant(s)</b> RAVASKA, MATTI	
	<b>Examiner</b> ANTHONY J. CALANDRA	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 1 April 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-17,20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-10, 13-17, 20 and 21 is/are rejected.
- 7) ☒ Claim(s) 1,11,12 and 14-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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***Detailed Office Action***

The communication dated 4/1/2010 has been entered and fully considered.

Claims 1, 3-17, 20 and 21 are pending. Claims 1, 3-13, and 17 have been amended. The examiner notes that claims 14-16 state they have been amended but were not amended. Claims 2, 18, 19 have been canceled.

***Allowable Subject Matter***

1. Claims 11 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The applicant must also correct the objection made in independent claim 1, see below.

The following is a statement of primary reasons for the indication of allowable subject matter:

The prior art does not teach fatty acids of claim 1 at the proportions claimed by the applicant in either claims 11 or 12 mixed with hardwood particle. Further the distilled tall oils of the prior art failed to comprise the fatty acids at these proportions. More specifically, claim 11 requires at least 28% oleic acids and at least 7% stearic acids. In contrast the prior art only suggests that distilled tall oil has 26.2 oleic acids and 1.4% stearic acids. In claim 11, a minimum of 33% oleic acids are required and 13% stearic acids are required. Neither does the prior art suggest mixing monomer acids with distilled tall oil to obtain the desired ranges. Further, the prior art fails to disclose whether the stearic and oleic acids are branched and/or linear.

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***Response to Arguments***

2. Applicant's arguments filed 4/1/2010 have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of *Effects of Certain Chemical Additives on the Deresination of Trembling Aspen in Kraft Pulping*.

The examiner found convincing the following arguments: MAGEE alone did not teach hardwood particles.

The examiner found convincing that there is no specific teaching in the applicant's admitted prior art regarding distilled tall oil. The examiner notes the new reference above does teach the advantages of distilled tall oil.

The examiner found convincing the applicants arguments regarding the LAWSON reference.

***Claim Objections***

3. Claims 1 and 17 are objected to because the applicant uses the term 'saponifiable' the examiner believes the applicant meant 'unsaponifiable'.

4. Claims 11 and 12 are objected to as being dependent on a rejected claim.

5. Claims 14-16 are objected to because of the following informalities: The applicant inadvertently left out the preamble changes that were made to the other claims, specifically aid should be replaced by mixture. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3-17, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by *The Effects of Certain Chemical Additives on the Deresination of Trembling Aspen in Kraft Pulping* by DUNLAP-JONES et al., as evidenced by SYLVATAL D40LR Product Data Sheet by Arizona Chemical.

As for claims 1, 3, 6, 13, 14, 16, 17, and 20, DUNLAP discloses pulping a hardwood with the addition of tall oil to aspen, a hardwood [abstract, pg. 365 Introduction]. DUNLAP discloses that distilled tall oil works the best for removing extractives [pg.374 Figure 1, pg. 377 Table 3, pg. 383 summary (3)]. DUNLAP discloses that SYLVATAL 40 DD double distilled is used.

The reference sheet from Arizona Chemical shows that SYLVATAL D40LR has less than 3% unsaponifiabiles, 39% rosin acids and 58% resin acids which fall within the instant claimed range [product properties] which falls within the instant claimed ranges. The examiner has interpreted these as similar products as both are named SYLVATAL 40, the DUNLAP reference states there are 2.9% neutral while the product data sheet states there are less than 3% unsaponifiabiles. Also the acid numbers are substantially similar 185 of DUNLAP vs. greater than 178 and typical 181. Should the examiner choice of spec sheets be incorrect the applicant is

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in the best position to provide evidence otherwise as Arizona Chemical is now the maker of SYLVATAL products which acquired the original maker Sylvachem. Further if the SYLVATAL 40 product used in DUNLAP comprise the acids of claims 11 and 12 in the disclosed ranges this should be disclosed by the applicant.

In addition to the above as for claim 20, DUNLAP discloses cooking at 170 degrees C [pg. 269 pulp preparation].

As for claims 4, 5, 7, 8, 9, 10, and 15, as the product is a distilled tall oil it will have the rosin and fatty acids of the instant claim absent evidence to the contrary. Again as the applicant Arizona Chemical now makes the SYLVATAL products it is in the best position to show otherwise and rebut the *prima facie* case.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 21 is rejected under 35 U.S.C. 103(a) as obvious over *The Effects of Certain Chemical Additives on the Deresination of Trembling Aspen in Kraft Pulping* by DUNLAP-JONES et al., hereinafter DUNLAP.

DUNLAP discloses treating aspen a hardwood with distilled tall oil. DUNLAP additionally discloses that birch wood has been treated with crude tall oil. [pg. 367 paragraph 2]. At the time of the invention it would have been obvious at the time of the invention to apply a distilled tall oil treatment to birch would instead of aspen wood. Both birch wood and aspen wood are hardwoods and therefore have similar fibers. Additionally, the reference suggests the use of crude tall oil in birch treatments. As distilled tall oil has been shown to be superior [pg.374 Figure 1, pg. 377 Table 3, pg. 383 summary (3)] it would have been obvious at the time of the invention to apply known distilled tall oil treatment to the cooking process of birch ready for improvement.

8. Claims 1, 3-10, 13-17, and 20-21 are rejected under 35 U.S.C. 103(a) as obvious over *The Effects of Certain Chemical Additives on the Deresination of Trembling Aspen in Kraft Pulping* by DUNLAP-JONES et al., hereinafter DUNLAP, in view of *Composition of American Distilled Tall Oils* by MAGEE et al, henceforth referred to as MAGEE.

As for claims 1, 17, and 20, DUNLAP discloses pulping a hardwood with the addition of tall oil to aspen, a hardwood [abstract, pg. 365 Introduction]. DUNLAP discloses that distilled tall oil works the best for removing extractives [pg.374 Figure 1, pg. 377 Table 3, pg. 383 summary (3)]. DUNLAP does not explicitly disclose the components of the distilled tall oil.

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The examiner above has used what appears to be the composition of the distilled tall oil for the 102 rejection. However, should the composition of the distilled tall oil be shown not to meet the instant claim then in the alternate, MAGEE et al. teaches a distilled tall oil which is a mixture of fatty acids and resin acids (resin acids are rosin acids) and which have less than 5% unsaponifiabiles (*A wood cooking aid comprising a fatty acid component and a rosin acid component and/or salts thereof wherein said fatty acid component is blended together with said rosin acid component to produce said cooking aid, and wherein said cooking aid comprises about 70 to about 2% fatty acids, and about 20 to about 98% rosin acids* [see e.g. Table 1 Tall oil sample Hxs has 29% fatty acids, 67% Resin acids and 4.1% neutrals which are unsaponifiabiles]). The mixture of fatty acids and rosin acids falls within the instant claimed range. Each of the various samples A-I have resin acid amounts which fall within the instant claimed range and fatty acids amounts which fall within the instant claimed range. Finally the unsaponifiable amount is less than 8% for all of the samples.

At the time of the invention it would have been obvious to the person of ordinary skill in the art to use one of the distilled tall oil compositions of MAGIE in the process of DUNLAP. It is prima facie obvious to substitute one known distilled tall oil for another known distilled tall oil absent evidenced of unexpected results. The person of ordinary skill in the art would expect each distilled tall oil to improve extraction from the wood treated as disclosed by DUNLAP. The use of the distilled tall oil of MAGIE in the process of DUNLAP would form the composition of the instant claims. The method of cooking disclosed by DUNLAP meets the instant claimed methods.



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In addition to the above as for claim 20, DUNLAP discloses cooking at 170 degrees C [pg. 269 pulp preparation].

As for claim 3, tall oil sample Hxs of MAGEE et al. teaches 29% fatty acids, 67% Resin acids which falls within the instant claimed range [see e.g. table 2].

As for claim 4, the tall oil sample Hxs of MAGEE et al. has resin acids including oil rosin acids, including abietic acid, dehydroabietic acid and palustrie acid [see e.g. table 3 sample Hxs].

As for claim 5, the tall oil sample Hxs of MAGEE et al. has pimaric acid and 8-15-pimaradienioc acid [see e.g. table 3 sample Hxs]. Examiner has interpreted 8-15-pimaradienioc acid to be equivalent to 8-15 pimaric acid.

As for claim 6, the fatty acids of MAGEE et al. are produced from tall oil [see e.g. abstract and 1<sup>st</sup> paragraph]. Tall oil is produced from trees which are vegetable matter.

As for claim 7, MAGEE et al. teaches that the tall oils contain oleic acid which is an unsaturated fatty acid [see e.g. Table 2].

As for claims 8 and 10, MAGEE et al. teaches that the tall oils contain oleic acid, linoleic acid and 18:3 fatty acid [see e.g. Table 2, 18:3 fatty acid is pinoleic acid]. Oleic acid is one of the acids that can be formed as a monomer part from the dimerization process.

As for claim 9, MAGEE et al. discloses, a conjugated fatty acid 18:2 (9,11 ct), and a cyclic fatty acid, pimaric acid [see e.g. Table 2, since the double bonds of the 18:2 fatty acid alternate carbons, it is a conjugated fatty acid].

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As for claims 13 and 14, MAGEE et al. discloses multiple mixtures of distilled tall oils which contain fractions of fatty acids and rosin acids [see e.g. Abstract and 1<sup>st</sup> paragraph].

As for claim 15, MAGEE et al. discloses fatty acids with two unsaturated bonds and three unsaturated bonds and 20 carbon atoms [see e.g. Table 3 C20:2 and C20:3]. MAGEE et al. does not explicitly disclose the location of the unsaturated bonds on the 20 carbon chain fatty acids. Since the fatty acids taught by MAGEE et al. are produced in tall oil as are the fatty acids the instant application it is the examiners position that the C20 fatty acids of MAGEE et al. would include at least some fatty acids with the bond location of 5,11,14-C20:3 and 11,14-C20:2. Please see MPEP 2112.01.

As for claim 16, MAGEE et al. discloses tall oil fatty acids, tall oil rosin, and other distillation cuts [see e.g. Abstract and 1<sup>st</sup> paragraph].

As for claim 21, DUNLAP discloses treating aspen a hardwood with distilled tall oil. DUNLAP additionally discloses that birch wood has been treated with crude tall oil [pg. 367 paragraph 2]. At the time of the invention it would have been obvious at the time of the invention to apply a distilled tall oil treatment to birch would instead of aspen wood. Both birch wood and aspen wood are hardwoods and therefore have similar fibers. Additionally, the reference suggests the use of crude tall oil in birch treatments. As distilled tall oil has been shown to be superior it would have been obvious at the time of the invention to apply known distilled tall oil treatment to the cooking process of birch ready for improvement.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. CALANDRA whose telephone number is (571) 270-5124. The examiner can normally be reached on Monday through Thursday, 7:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anthony J Calandra/  
Examiner, Art Unit 1791

/Eric Hug/  
Primary Examiner, Art Unit 1791